WHAT IS CLAIMED IS:

1. A method of fabricating at least one hollow glass article using a fabrication cycle consisting in particular in:

- forming a blank from a gob of molten glass within a roughing mold;
- transferring the blank into a finishing mold having, in a mold cavity, a suction cup movable in translation parallel to the axis of the mold over a stretching stroke between firstly an extended position inside the mold and secondly a retracted position in which the suction cup is situated at the bottom of the mold;
- establishing suction in the suction cup to unite the bottom of the blank with the suction cup placed in the extended position;
- moving the suction cup to the retracted position to stretch the blank;
- reestablishing atmospheric pressure at the suction cup;
- inflating the stretched blank inside the finishing mold in order to obtain the hollow glass article;
- opening the finishing mold; and
- extracting the hollow glass article from the finishing mold;

the method consisting in establishing suction in the suction cup prior to the bottom of the blank coming into contact with the suction cup.

2. A method according to claim 1, consisting in establishing suction in the suction cup when the distance between the suction cup and the bottom of the blank is less than 10 mm, and preferably lies in the range 1.5 mm to 2.5 mm.

3. A method of fabrication according to claim 1, consisting in establishing suction in the suction cup after 83% to 90% of the fabrication cycle has elapsed.

4. A method of fabrication according to claim 1, wherein the suction cup is moved after suction has been established in the suction cup with a time offset of duration lying in the range 0.25% to 2% of the total duration of the fabrication cycle.

5. A method according to claim 1, wherein the duration of the assisted-stretching stroke is less than half the time that would be taken by the blank to reach the same degree of stretching under the effect of its own weight.

6. A method according to claim 1, wherein the duration of the assisted-stretching stroke lies in the range 10% to 15% of the total duration of the fabrication cycle.

7. A method according to claim 1, consisting in moving the suction cup during the stage of stretching the blank by causing its speed to vary as it moves.

8. A method according to claim 7, consisting in causing the displacement speed of the suction cup to vary so as to reach a maximum speed lying in the range 100 mm/s to 300 mm/s.

9. A method according to claim 1, wherein the level of the suction established in the suction cup is more negative than -0.4×10^5 Pa, and preferably lies in the range -0.8×10^5 Pa to -0.5×10^5 Pa.

10. A method according to claim 1, wherein the gob of molten glass is at a temperature lying in the range 1100°C to 1200°C. --

11. A method according to claim 1, consisting, after the glass article has been extracted, in injecting a cooling fluid into the suction cup.

12. A method according to claim 11, consisting in maintaining the suction cup at a temperature lower than 500°C, and preferably lying in the range 400°C to 500°C.

13. A method according to claim 12, wherein the cooling fluid is compressed air at a pressure lying in the range 3.3×10^5 Pa and 7×10^5 Pa, presenting a temperature lying in the range 20°C to 50°C.

14. A method according to claim 1, consisting in forming the blank in such a manner that on being inserted into the finishing mold the bottom of the blank is concave.

15. A method according to claim 14, consisting in forming the blank in such a manner that the maximum depth of its concave bottom lies in the range 1 mm to 30 mm, and preferably in the range 1 mm to 5 mm.

16. A method according to claim 1, consisting in forming the blank in such a manner that it presents a height lying in the range 30% to 75% of the height of the finishing mold.

17. A method according to claim 1, wherein the blank is inflated by establishing suction in the finishing mold.

18. A method according to claim 1, wherein the blank is inflated by blowing gas into the blank.

19. A method of fabrication according to claim 1, consisting, in order to fabricate a series of n identical hollow glass articles simultaneously, specifically in:

- forming n blanks in n roughing molds;

- simultaneously transferring the n blanks into n finishing molds, each including in its mold cavity a puller suction cup movable in translation parallel to the axis of the mold over a stretching stroke between firstly an extended position inside the mold cavity and secondly a retracted position in which the suction cup is situated at the bottom of the mold cavity;

- simultaneously establishing suction at the n suction cups;

- simultaneously displacing the n suction cups to the retracted position;

- simultaneously reestablishing atmospheric pressure in the n suction cups;

- simultaneously inflating the n stretched blanks;

- simultaneously opening the n finishing molds; and

- simultaneously extracting the n hollow articles from the n finishing molds.

20. A method of fabrication according to claim 19, consisting, for the suction cups of the n molds, in adopting strokes of different lengths.

21. A method of fabrication according to claim 20, consisting in:

- for transferring the n blanks from the roughing modes to the finishing molds using a rocker mechanism for extracting the blank from the roughing modes and engaging them with opposite orientation into the finishing molds by turning through 180° about an axis; and

- adopting stretching strokes for the suction cups that decrease with increasing distance of the finishing molds from the pivot axis of the rocker mechanism.

22. An installation for fabricating at least one hollow glass article, the installation comprising in particular at least one molding unit comprising:

- a roughing mold comprising two roughing half-bodies and a roughing bottom together defining a roughing cavity;

- a finishing mold comprising firstly two finishing half-bodies and a finishing bottom together defining a molding cavity and secondly assisted-stretching means comprising:

- a suction cup carried by a member movable in translation along the mold axis in order to displace the suction cup between an extended position inside the mold and a retracted position in which the suction cup is situated at the bottom of the mold;

- drive means for moving the moving member; and

- a pneumatic circuit connected to the suction cup;

- a ring element and transfer means for transferring the ring element alternately between the roughing mold and the finishing mold;

wherein:

- the suction cup presents a central suction surface connected to the pneumatic circuit and a peripheral surface that is impervious to air; and

- the suction surface of the suction cup presents a maximum diameter D_{max} substantially equal to the mean diameter D_{mean} of the blank to be stretched.

23. An installation according to claim 22, wherein the roughing mold includes a punch and wherein the maximum diameter D_{max} of the suction cup satisfies the following relationship:

$$\frac{\pi}{4}(D_{max})^2 \; hp = \frac{Ve + Vp}{2}$$

where:

- hp is the height of the blank beyond the ring;

- Ve is the volume of the roughing cavity; and

- Vp is the volume of the imprint made by the punch beyond the ring.

24. An installation according to claim 22, wherein the suction surface of the suction cup is constituted by a porous material.

25. An installation according to claim 24, wherein the suction surface of the suction cup is constituted by sintered metal.

26. An installation according to claim 24, wherein the suction surface of the suction cup is constituted by a ceramic.

27. An installation according to claim 22, wherein the suction surface of the suction cup presents knurling and includes an annular peripheral collector groove connected to the pneumatic circuit.

28. An installation according to claim 22, wherein the suction surface of the suction cup presents a portion in relief or an imprint for forming a pattern on the bottom of the hollow glass article.

29. An installation according to claim 22, wherein the suction cup presents cooling fins extending into a duct connecting the suction cup to the pneumatic circuit.

30. An installation according to claim 22, wherein the suction cup is integrated in the bottom of the finishing mold which thus constitutes the member that is movable in translation for stretching the blank.

31. An installation according to claim 22, wherein the bottom of the roughing mold is convex.

32. An installation according to claim 31, wherein the depth of the convex shape of the bottom of the roughing mold lies in the range 1 mm to 30 mm.

33. A hollow glass article obtained by implementing the method according to claim 1.